

INDEX

A-C

Agricultural conservation practices study in Little Washita Watershed, Jan-22

Alfalfa, in rotations to study greenhouse gas emissions, Nov/Dec-4

Animal health, new center for research in Ames, Iowa, Mar-12

Apples, genes for disease resistance, Apr-18

Aquaculture

- feed alternatives for farm-raised fish, Mar-13
- floating vegetated mats to treat wastewater, Jan-17
- genetic mapping of rainbow trout, Mar-8
- low-salt recirculating system for marine fish, Feb-14
- vitamin mix for farmed fish, May/Jun-18

Arcobacter butzleri, genome of sequenced, test for, Apr-10

ARS National Research Programs for Agricultural System Competitiveness and Sustainability, Sep-17

Biocontrol, Jul-23

Global Change, Nov/Dec-17

Water Availability and Watershed Management, Jan-23

ARS partnerships with

- businesses and nonprofits, Mar-18
- industry, Mar 15
- international groups, Mar-2, 8, 11; Aug-10; Sep-13; Oct-14
- other federal agencies, Mar-12
- states, universities, Mar-2, 4

ARS regional research centers' accomplishments, Feb-2

ARS research, diversity, accomplishments of, Aug-2

Atrazine, degradation of by eastern gammagrass, Jan-20

Avian influenza

- ARS's efforts to monitor, combat, Aug-8
- genome sequences of 150 viruses released, Feb-23

Bacillus anthracis, new way to remove from eggs, milk, May/ Jun-12

Banana moth, attractant for mating disruption, Jul-10

Barley, breeding resistance to Ug99 rust, Mar-22

Basil, testing yield, oil content of, Sep-23

Beans, resistance to chocolate pod, other viruses, Aug-19

Bees, wild, aromas to attract for crop pollination, Sep-23

Bermudagrass hay, wastewater irrigation of, Jan-18

Berries, DNA markers developed for, Mar-4

Biocontrol

- ARS overseas labs' role in, Jul-2
- of *Arundo donax*, four insects for, Jul-12
- of Colorado potato beetle with various predators, Oct-10
- of fire ants with microsporidia, phorid fly, Jul-18
- of garlic mustard with weevil, Jul-8
- of kudzu with *Myrothecium verrucaria* fungus, Jul-4
- of Old World climbing fern with Neo moth, Jul-6
- of olive fruit fly with parasitic wasp, Feb-12
- of white peach scale with *Encarsia wasp*, Jul-10

Bioenergy/Biofuels

- cost-benefit calculations with EPIC model, Sep-7
- crude glycerin coproduct as feed supplement, Apr-20
- hydrogen production by nitrogen-fixing bacteria, Mar-18
- wet distiller's grains with solubles byproduct as feed, Sep-18

Blueberry, Prince, an early-ripening rabbiteye, Aug-23

Brown marmorated stink bug, U.S. invasion, spread, Jul-14

Calera Aquifer, U.S.-Mexico effort to preserve, Sep-13

Carbon dioxide, effects of future levels on crops, weeds, Nov/Dec-10, 12

Carbon, tillage, rotations to preserve in soil, Nov/Dec-4

Cattle

- crooked calf syndrome, cleft palate, Aug-4
- diagnostics, vaccines for bovine tuberculosis, May/Jun-8
- distiller's grains as feed, Feb-6
- foot-and-mouth disease detection, vaccine, Apr-14
- high milk yield genetically linked to reduced fertility, Oct-4
- identifying genetic potential, Oct-2, 5
- mechanism behind fescue toxicosis, Oct-9

nematode resistance in genome, Oct-5

proteins linked to John's disease, May/Jun-8

retinal scan screens for TSEs, Aug-18

wet distiller's grains with solubles as supplement, Sep-18

Cayenne pepper extract kills plant, human fungi, Jul-17

Cheatgrass, cross-pollination in, Jul-20

Cherries, genes for disease resistance, Apr-18

Chicken feathers, biodegradable plastic, filters from, Sep-20

Chickens, hyperspectral imaging system scans carcasses for feces, Oct-18

Chickpea, *Sclerotinia trifoliorum* infection in, Apr-23

Citrus greening disease, qPCR test detects bacteria in psyllids, Oct-12

Cleft palate, goat model for prenatal surgical repair, Aug-4

Climate forecasts, usefulness to agriculture, Nov/Dec-7

Cobia, raising in low-salt recirculating system, Feb-14

Colorado potato beetle, insect predators of, Oct-10

Composting of manure, food residuals, Sep-4

Conservation Effects Assessment Project, Jan-14; Mar-12

Conservation tillage, estimating with remote sensing, Apr-4

Corn germ, plywood-glue extenders made from, Sep-22

Corn rootworm

- DNA technique to obtain genetic markers for, Feb-23
- insect predators of, Oct-10

Corn stover, use in gasification plant to heat campus, Sep-7

Corn-wheat system, irrigation at critical growth stages, Oct-16

Corn

- Germplasm Enhancement of Maize project, Mar-15
- inbred lines resist *Aspergillus flavus*, Oct-14
- nitrogen fertilizer use in, Feb-20
- no-till planting keeps organic carbon in soil, Nov/Dec-4
- transgenic lines contain green fluorescent protein, Apr-23

Cotton

- cross-linking process adds valuable properties to, Feb-10
- hydromulch spray-on blanket made from cotton waste, May/Jun-22
- pests of and their predators, Oct-10

Cover crops

- growth, nutrients estimated with satellite data, Mar-4
- perennial, add back carbon lost to stover removal, Sep-7
- rye's effect on soil chemistry, weed suppression, Oct-19

Crop canopy cover estimates water needs of plants, Jan-16; Mar-8

Crop residue, satellite imagery estimates percentage of, Apr-4

Crop rotations, effect of on soil microbes, carbon, Aug-16

Crop water needs, technology to determine, Oct-16, 23

Crops, response to elevated CO₂ levels, Nov/Dec-12, 14

Crossflow microfiltration membrane separation, May/Jun-12

D-F

Dairy proteins, food-packaging films made from, Sep-14

Deer, white-tailed, reservoirs of bovine tuberculosis, May/ Jun-8

Distiller's grains, various uses for, Feb-6, 8

E. coli, false-positive tests in reclaimed water, Jan-8

Eastern gammagrass degrades atrazine, Jan-20

Eggs

- liquid, removing pathogens from, May/Jun-12
- Salmonella*'s ability to infect, Apr-8
- technology spots microcracks in shells of, Feb-4

Environmental Policy Integrated Climate model, Sep-7

Erosion

- mini-JET test measures factors influencing, Oct-23
- model evaluates tillage effects on ephemeral gullies, May/ Jun-23
- pelletized PAM/gypsum for control, Jan-4
- reducing by using more paper mill waste, May/Jun-23

Ethanol byproducts (distiller's grains) as swine, cattle feed, Feb-6

Ethanol, feed uses for wet distiller's grains with solubles, Sep-18

Federal green projects, Sep-2, 4

Food safety

- Arcobacter butzleri* genome sequenced, Apr-10
- botulinum toxin test, May/Jun-2, 4
- ComBase database of foodborne pathogens, Mar-8
- crossflow microfiltration removes pathogens, May/Jun-12
- ProSafeBeef program to identify foodborne pathogens, Mar-8
- Salmonella*'s ability to infect eggs, Apr-8

Food-production potential, assessing local production in eastern seaboard region, Sep-4

Foot-and-mouth disease, early detection, vaccine for, Apr-14

Forums

- ARS's Animal Breeding Work, Oct-2
- Commodity Utilization Research: Ready To Meet Today's and Tomorrow's Needs, Feb-2
- Diversity of ARS Research, Aug-2
- Managing Agriculture in a Climate of Change, Nov/Dec-2
- Microbes: Marvels and Miscreants, May/Jun-2
- Overseas Labs Play Vital Role in U.S. Biocontrol Efforts, Jul-2
- Research: We Accomplish More Together, Mar-2
- Sustainable Agriculture: Efficient and Economical Practices for Maximum Production and Environmental Stewardship, Sep-2
- Understanding Earth From Space, Apr-2
- Water Availability, Watershed Management, and the Impending Global Water Crisis, Jan-2

Fruit flies, areawide control program in Hawaii, Mar-4

Fruit wraps, all natural, from purées, Aug-7

G-J

Garlic mustard, weevil biocontrol for, Jul-8

Genes/Genetics

- expressed sequence tags in watermelon, Nov/Dec-18
- gene silencing technique for soybean rust resistance, May/ Jun-23
- genome walking technique, Oct-12
- resistance gene analogs in Rosaceae species, Apr-18
- RNA interference used in red flour beetle chitin genes, Nov/Dec-21
- selective breeding influenced Holstein genome, Oct-4

Genetically engineered crops, new risk-assessment approach for, Feb-22

Genome

- mutation mapping of *Salmonella*'s, Apr-8
- of *Arcobacter butzleri* sequenced, Apr-10
- of plants, Mar-14

Germplasm Enhancement of Maize Project, Mar-15

Germplasm

- of Ecuadorian crops, ARS efforts to conserve, Aug-10
- of heirloom sheep breeds preserved at NAGP, Mar-20

Giant reed, *Arundo donax*, biocontrols, model, Jul-12

Global climate change, list of websites about, Nov/Dec-16

Glycerin, crude, as feed supplement, Apr-20

Goats

- cause, repair of cleft palate in, Aug-4
- rectal biopsy live-animal test for scrapie, Apr-12

GRACEnet, Apr-22; Nov/Dec-4

Grapes

- CAY-1 pepper extract kills fungal pathogens of, Jul-17
- polyphenols in, water stress in, Mar-4

Grasses, response to elevated CO₂ levels, Nov/Dec-14

Greenhouse gases, cutting emissions of from compost, Sep-4

Guayule as biofuel feedstock, hypoallergenic latex source, Feb-18

H1N1 virus, ARS's efforts to monitor, combat, Aug-8

Hairy vetch mulch improves tomato growth, nutrient levels, Oct-23

Herbicide degradation in grass filter strips in riparian zones, Jan-20

Honey bees,
attractants, sticky boards control *Varroa* mites, Jul-16
ozone applications degrade pesticides, kills pests, Feb-23

Human nutrition

beta-carotene genes added to red rice yeast, May/Jun-17
breeding crops with more bioavailable nutrients, Mar-8
caffeine content of botanicals in supplements, Apr-17
dietary alkali helps preserve muscle, bone, Nov/Dec-20
fast-food kids' meals evaluated for nutrition, Oct-20
federal surveys of dietary intake, health, Mar-12
isoflavones database updated, Apr-23
kaempferol's role in iron absorption, Sep-6
palm oil's effect on plasma lipoproteins, Apr-22
phytochemicals fight inflammation, Apr-6
potassium-rich diets preserve muscle, Oct-23
U.S. foods analyzed for vitamin D content, May/Jun-16

Illumina Bovine SNP50 BeadChip, Oct-2, 4

Insect predators, night observations of beneficial, Oct-10

Integrated pest management of fruit flies in Hawaii, Mar-4

Invasive species

ARS's overseas labs' research roles, Jul-2
banana moth, Jul-10
brown marmorated stink bug, Jul-14
cheatgrass, Jul-20
garlic mustard, Jul-8
giant reed, Jul-12
kudzu, Jul-4
nettle moth, Jul-10
Old World climbing fern, Jul-6
plants' response to elevated CO₂ levels, Nov/Dec-14
red imported fire ants, Jul-18
rush skeletonweed, Jul-22
white peach scale, Jul-10

Irrigation

automated canal systems in Arizona, Mar-4
crop canopy cover estimates need for, Jan-16; Mar-8
crop needs determined via remote sensing, Sep-10
drip vs. furrow in onions, Feb-20
of forage with saline wastewater from cannery, Jan-21
recommendations from computer models, weather data, Oct-16
subsurface drip, with pretreated swine wastewater, Jan-18
with reclaimed water, Jan-8

K-N

Kaolin film and water stress in grapes, Mar-4
Kudzu, *Myrothecium verrucaria* fungus biocontrol for, Jul-4
Leafy spurge, detecting with infrared imaging satellites, Apr-5
Lignin, genes found for production of in plum stones, Apr-16

Listeria monocytogenes, proprietary disinfectant kills and removes biofilms of, Oct-9

Lychee, pruning, fertilizing regimen for, May/Jun-21

Milkweed oil, fatty acid in absorbs UV radiation, Feb-9

Mosquitoes

new insecticidal compounds for, Mar-15
role in transmitting Rift Valley fever, May/Jun-11
treated military uniforms protect troops from, Aug-23
Nasonia wasp genome sequence completed, Aug-22

National Agricultural Library

global climate change websites, Nov/Dec-16
invasive species website, Jul-21
sustainable ag website, Sep-16

National Centers for Animal Health, new facility, Mar-12

National Invasive Species Information Center website, Jul-21

National Plant Germplasm System, functions, importance of, May/Jun-14, 15

Nematodes, NemaCur alternatives for treating red raspberry, Mar-4

Nettle moth, mating disruption tactic against, Jul-10

Nitric oxide in soil modifies proteins in plants, Sep-23

Nitrogen

agricultural emissions of N₂O, Apr-22; Nov/Dec-4, 8, 9

later irrigation in China can reduce need for, Oct-16
rotations to reduce use of in Arkansas River Valley, Feb-20

O-S

Obesity in children, fast-food meals' contribution to, Oct-20

Office of International Research Programs, activities of, Mar-8

Office of Technology Transfer, activities of, Mar-15

Ogallala Aquifer

effect of farming practices on, Aug-16

U.S.-Mexico effort to preserve, Sep-13

Olive fruit fly, wasp biocontrol, x-ray detection of, Feb-12

Onions, nitrogen fertilizer use, drip irrigation in, Feb-20

Ozone, effects of future concentrations of on crops, Nov/Dec-10

Peanuts, automated grading, moisture detection, Feb-22

Peppers, new ornamentals Lil' Pumpkin, Pepper Jack, Oct-8

Pesticides, constructed wetlands mitigate in runoff water, Jan-14

Phytochemicals, how they fight inflammation in body, Apr-6

Plant oils, biodegradable lubricant additives from, Sep-14

Plant residue, use as fuel, Sep-7

Plant starches, biodegradable foams from, Sep-14

Plums, breeding pitless, Apr-16

Pompano, raising in low-salt recirculating system, Feb-14

Potatoes

disease-resistant Yukon Gem, Mar-7

russet breeding line resists nematodes, corky ringspot, Apr-11
zebra chip disease of, Oct-22

Poultry

ARS-industry collaborative work on diseases of, Mar-15

composting litter, Mar-11

crude glycerin as feed supplement for, Apr-20

supplements boost immune response to *Eimeria*, May/Jun-16

Precipitation, multiyear variations affect conservation practices, Jan-22

Rainbow trout, genetic mapping of, Mar-8

Red flour beetle, disabling chitin genes in, Nov/Dec-21

Red imported fire ants

biocontrols for, dominance of, Jul-18

hypothetical U.S. origin, spread of, May/Jun-23

Red raspberries, genes for disease resistance in, Apr-18

Remote sensing

estimating crop residue with, Apr-4

in Southwest to conserve water use, Sep-10

of leafy spurge infestations, Apr-5

satellite data, agricultural uses for, Jan-16; Apr-2, 4

Renewable Energy Assessment Project, Sep-7

Rice

fermented, increasing beta-carotene content, May/Jun-17

multiple-inlet rice irrigation system saves water, Jan-12

Rift Valley fever, diagnostics, vaccines for, May/Jun-11

Rush skeletonweed, U.S. introduction, spread of, Jul-22

Ruth Benerito, ARS Hall of Fame 2004 Winner, Feb-10

Rye, benzoxazinoids in may suppress weed growth, Oct-19

Salmonella enteritidis

DNA differences linked to virulence, Apr-8

new way to remove from egg whites, May/Jun-12

Salmonella Typhimurium, response to norepinephrine in pigs, Aug-20

Scrapie, gene variants linked to resistance in goats, Apr-12

Sheep

artificial insemination advances, Oct-6

Hog Island, Leicester Longwool breeds preserved, Mar-20

ultrasound can predict loin muscle, back fat, Oct-6

Soil

carbon, maintaining with rotations, tillage, residue, Sep-7

microbes, enzymes, key to quality, processes of, Aug-16

tillage, rotations to preserve organic carbon in, Nov/Dec-4

Sorghum, in rotations to study greenhouse gas emissions, Nov/Dec-4

Soybean oil, lubricating, metalworking fluid from, Mar-18

Soybean

breeding lines from ARS-Soybean Board partnership, Mar-15

drought, heat boosts antioxidant levels in, Aug-23

finding genes resistant to soybean rust, May/Jun-23

in rotations to study greenhouse gas emissions, Nov/Dec-4
response to elevated CO₂, ozone, Nov/Dec-10

Strawberry, neuter gender class discovered, Aug-14

Streptococcus agalactiae (group B) isolates' genes compared, Aug-12

Sucromalt slow-release carbohydrate-based sweetener, Mar-18

Sustainable Agriculture Information Tools website, Sep-16

Sweetpotato

caffeoylquinic acids in protect against pathogens, Oct-18

purée, rapid microwave heating process for, Mar-18

Swine influenza, ARS's efforts to monitor, combat, Aug-8

Swine

crude glycerin as feed supplement for, Apr-20

distiller's grains as feed for, Feb-6

EchoMRI analyzes piglet body composition, Apr-23

Salmonella-stress-norepinephrine interaction in, Aug-20
wastewater used to irrigate bermudagrass, Jan-18

T-Z

Tilapia, *Bacteroides* strain in, Jan-8

Tillage, to increase soil carbon, decrease greenhouse gases, Nov/Dec-4

Tomato, hairy vetch mulch improves taste, nutrients, Oct-23

Transmissible spongiform encephalopathies

retinal scan screens cattle for, Aug-18

tests for, May/Jun-7

Triclosan, new test to detect in water samples, Jan-13

Ug99 stem rust, collaborations to breed resistance to in wheat, Mar-22

Vegetable wraps, all natural, from purées, Aug-7

Wastewater

bioreactor uses bacteria to remove nitrate from, Jan-18

ELISA-based field kits detect sulfa drugs in, Sep-23

floating vegetated mats to treat fishery, Jan-17

from tomato cannery, irrigating forage with, Jan-21

Water availability

aquifer preservation, Aug-16; Sep-13

improving snowmelt forecasts in Southwest, Sep-10

providing clean water for growing population, Jan-2

reclaiming, reusing water in desert Southwest, Jan-8

Water quality

better test to detect triclosan, derivatives, Jan-13

denitrification of agricultural runoff water, Jan-18

land-use changes benefit Beasley Lake, Jan-14

methods of filtering golf course runoff, Jan-4

riparian zones reduce atrazine levels in, Jan-20

testing for drugs, bacteria in reclaimed water, Jan-8

Water use

automated canal systems in Arizona, Jan-8; Mar-4

irrigation techniques lessen, Jan-16; Oct-16

reducing in MidSouth rice paddies, Jan-12

Watermelons, genes for growth, development, Nov/Dec-18

Weed Invasion Susceptibility Prediction Model, Apr-5

Weeds

elutriator separates seeds from soil, saves water, Feb-17

response to elevated CO₂ levels, Nov/Dec-12, 14

sinabin in white mustard seed meal controls, Aug-23

Western juniper, evidence of seed spread by diplochory, Jul-20

Wheat-corn system, irrigation at critical growth stages, Oct-16

Wheat

alternative tilling, rotations increase soil carbon, Nov/Dec-4

breeding resistance to Ug99 rust in, Mar-22

response to elevated CO₂, ozone, Nov/Dec-10

Whey, high-protein snack foods made from, Mar-18

White peach scale, wasp as biocontrol of, Jul-10

Yersinia pestis, detection in food samples, May/Jun-12